



statistical instruments for industry



TENTATIVE DATA

MODELS 602A/603A

ALL SOLID STATE NOISE GENERATORS

Many systems, test stations, test sets, laboratory benches, and other areas, require sources of symmetrical, non-clipped Gaussian noise for many diverse applications including audio testing, vibration analysis, and general purpose testing. The Models 602A/603A were developed as companion units to the Model 610A for use in those areas not requiring the precise specifications or operating flexibility of this more expensive unit.

These new all solid state instruments incorporate the flexible modular package proven in the Model 610A. Upgrading of existing systems and test stations utilizing noise generators is easily accomplished with either of these models by using one of the various mounting options available.

The Model 602A/603A Noise Generators employ a solid state device as a noise source. The output of the noise source is amplified by a special low noise feedback preamplifier. The noise is then passed through a switchable single pole low pass RC filter. The resulting signal is then further amplified by a variable gain feedback amplifier. The appropriate gain for each frequency range is selected by the range switch. The resulting noise voltage is then passed through another switchable single pole low pass RC filter and through the variable attenuator to the output amplifier. The output of this amplifier is fed to the output meter and the five position output attenuator. The output of the attenuator is brought to the front panel. The output meter is an average reading voltmeter calibrated to read the RMS value of a Gaussian distributed voltage. The required dc power is supplied by a regulated power supply that uses a zener reference diode.

SPECIFICATIONS

FREQUENCY RANGES:	602A	603A
	20 cps to 20 kc	10 cps to 20 kc
	20 cps to 500 kc	10 cps to 500 kc
	20 cps to 5 mc	10 cps to 5 mc

OUTPUT SPECTRUM:

20 cps to 20 kc	±1 db	
20 cps to 500 kc	±3 db	
500 kc to 5 mc	±8 db	
10 cps to 500 kc		±1 db
500 kc to 5 mc		±3, 5 db

OUTPUT LEVEL: (Minimum value of maximum open circuit output)

200 kc range	3 volts	3 volts
500 kc range	2 volts	3 volts
5 mc range	1 volt	3 volts

OUTPUT IMPEDANCE:

900 ohms ±10%	200 ohms ±10%
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MAXIMUM LOAD: (on direct output)

no limit	700 ohms
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OUTPUT STEP ATTENUATOR: Five positions: X1.0, X0.1, X.01, X.001, and X.0001; calibrated to work into open circuit.

Accuracy	±3% to 100 kc	±3% to 500 kc
	±10% to 5 mc	±5% to 5 mc
Output Impedance	200 ohms ±1%	200 ohms ±1%

SPECTRAL DENSITY: Approximate spectral density (mv/√cps) for 1 volt RMS output.

20 kc band	5	5
500 kc band	1.2	1.2
5 mc band	0.4	0.4

AMPLITUDE PROBABILITY DISTRIBUTION: Symmetrical non-clipped Gaussian waveform all ranges.

OUTPUT METER: Rectifier type meter circuit reads proportional to average value, calibrated to read RMS value of Gaussian Noise; 0-5 volts RMS scale.

OPERATING TEMPERATURE RANGE: 0 to 50°C.

POWER SUPPLY: Built-in highly regulated dc supply.

POWER REQUIREMENTS: 115/230 volts ±10/20 volts, 50 to 1,000 cycles ac; approximately 5 watts. A rechargeable battery option is available. Battery is recharged by operating unit on ac line.

PANEL COLOR: Panel is clear anodized brushed aluminum.

DIMENSIONS: 5-1/4" high x 8-5/8" wide x 11" deep.

RACK MOUNT: A rack mounting adapter kit is available for rack mounting two units side by side. Also available is a rack mounting adapter kit for rack mounting one unit. One or two units use 5-1/4" x 19" of rack panel space with adapter kit. Full rack width cabinet option for one unit is available. Size of unit with this option is 5-1/4" high by 17" wide x 11" deep and comes with rack mounting hardware.

SHIPPING WEIGHT: Approximately 10 lbs.

ACCESSORIES: Dual unit adapter kit and rack mounting hardware, \$7.00; single unit adapter kit with rack mounting hardware and front and rear dummy panels, \$56.00; Rechargeable battery adapter kit, \$145.00.

PRICE: 602A, \$290.00; 603A, \$495.00; Full rack width option add \$30.00; rechargeable battery option add \$135.00.



Model 602A with full rack width mounting option.



Models 602A and 610A combined by dual unit adapter kit.



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